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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,225	06/28/2001	Yvon Pellegrin	1512-37	2775

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EXAMINER

KITOV, ZEEV

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 06/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/831,225

Applicant(s)

PELLEGRIN ET AL.

Examiner

Zeev Kitov

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 June 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 - 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28/06/01 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.                      6) ☐ Other:

## DETAILED ACTION

### *Objections*

1a. The Claims 1 – 9 are objected to because the claims text is printed as single spacing form. Such spacing makes reading and entry of amendments difficult. New Claims text with lines double-spaced is required.

1b. Claim 1 is further objected to due to following statements, which are mutually exclusive: “the electrodes of each pair are subjected to a voltage difference generated by a power supply (6) that supplies a D.C. voltage” and “ the electrode pairs are supplied cyclically at different polarities in a manner so that at any moment at least one electrode pair holds the wafer” (emphasis added). Supplying the electrode pairs cyclically at different polarities is by itself an A.C. voltage case. Therefore, application of D.C. voltage at the same time is impossible. If that means application of both superimposed D.C. and A.C. voltages, than applicant should state it explicitly. The cited statements in their current form create confusion. For purpose of examination it was assumed, that the electrodes have the A.C. voltage component alone, e.g. rectangular shape pulses of alternate polarity.

1c. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed timing of electrode voltages in Claim 7 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. A proposed drawing correction or corrected

drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

1d. Specification is objected to, because multiple amendments make its reading and possible corrections extremely difficult. Substitute Specification is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. While marking a time as t<sub>0</sub>, t<sub>1</sub>, t<sub>2</sub>, e t. c., it suddenly makes a following statements: "from 0 to t<sub>4</sub>" (line 11) and "from 0 to t<sub>5</sub>" (line 14). The erroneous statements are supposedly result of typing errors. However, if an assumption that "0" stands for "t<sub>0</sub>" is right, then the last statement assigns to electrode (7) a negative polarity in a period of time between t<sub>0</sub> and t<sub>5</sub>, which contradicts previous statement about a status of an electrode (7): "From t<sub>1</sub> to t<sub>2</sub>, the electrode (7) is supplied positively". Since an attempt to resolve a problem of the claim interpretation by use of an assumption has failed to produce meaningful results, the claim in its current form cannot be examined.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 - 5 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Moslehi (US 5,184,398), which regarding Claim 1 discloses all elements of the claim including multiple circular electrodes (Fig. 2) arranged in pairs and supplied with alternative polarity pulses (Fig. 8, col. 8, lines 55 – 67). As to arrangement of electrodes in pairs, it is seen from cyclic patterns in Fig. 8, that voltages of adjacent electrodes (Ve2 and Ve4, Ve6 and Ve8 in Fig. 8) have mutually opposite polarities and the sequence is periodically repeated. So at any moment at least one electrode pair holds the wafer. It further disclose an electrically insulating soleplate on which wafer is arranged; it is a thin layer of insulating material covering electrodes (col. 4, lines 58 – 61).

Regarding Claims 2 and 3, Moslehi discloses the electrodes being concentric rings and being centered concentric relative to the center of the soleplate (Fig. 2, col. 4, lines 34 – 45). As to electrodes being concentric with respect to the center, it is seen in Fig. 2 pattern.

Regarding Claim 4, Moslehi discloses electrodes having the same surface area (col. 5, lines 28 – 33).

Regarding Claim 5, Moslehi discloses a surface of contact between the wafer and the adhesion device (chuck) having geometric variations, such as contact terminals. The surface of contact between the wafer and the chuck has geometric variations formed by contacts (electrodes) shown in Fig. 1, 3 and 5a.

Regarding Claim 8, Moslehi discloses each electrode being split in two. It is seen from cyclic patterns in Fig. 8, that voltages of adjacent electrodes (Ve2 and Ve4, Ve6 and Ve8 in Fig. 8) have mutually opposite polarities and the sequence is periodically repeated. So electrodes carrying voltages Ve2 and Ve4, Ve6 and Ve8 are obtained as a result of the split.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moslehi (US 5,184,398) in a view of Hongoh et al. (US 5,179,498).

As per Claim 9, in addition to limitations of Claim 1 rejected accordingly, it introduces a new requirement of frequency of commutation of the electrodes being between 0.01 Hz and 1Hz. Hongoh et al. disclose frequency of commutation of the electrodes between 0.01 Hz or and 1 Hz (0.5 Hz, col. 5. lines 34 – 41). Both reference patents have the same problem solving area, namely design of electrostatic chucks.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used frequency of commutation of about 0.5 Hz according to Hongoh et al., because as Hongoh et al. state (col. 5, lines 34 – 47), such low frequency is a result of experimental optimization; a particular frequency selection results in a maximum chucking force, while preserving a fast dechucking (unloading) process.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moslehi in a view of Blake et al. (US 5,436,790) and further in a view of Japanese Patent publication JP 09265833 A. Claim 6 in addition to limitations of Claim 1 rejected accordingly, requires the electrodes and the dielectric layer of the chuck being made by serigraphy of thick films on a base plate.

Blake et al. disclose the electrodes of the chuck as being formed by a screen-printing (elements 22 and 24 in Fig. 3, col. 2, lines 67 – 68, col. 3, lines 1 – 5). Japanese Patent publication discloses forming both electrodes and dielectrics by screen-printing (page 2, lines 1 – 4). Both patents have the same problem solving area, namely forming electrodes and isolative dielectrics. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use forming of electrodes and dielectric layers by screen printing according to Blake et al. and Japanese Patent publication, because as JP 09265833 states (page 2, lines 1 – 4), the screen printing method provides good accuracy of the forms.

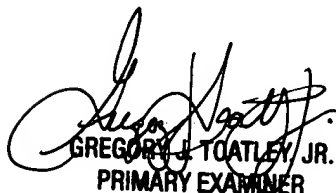
***C nclusion***

The prior art made of record not relied upon is considered pertinent to applicant's disclosure: US 5,880,923, US 5,452,177, US 5,522,131.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zeev Kitov whose telephone number is (703) 305-0759. The examiner can normally be reached on 8:00 – 4:30. If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (703) 308-3119. The fax phone numbers for organization where this application or proceedings is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Z.K.  
06/23/2003

  
GREGORY J. TOATLEY, JR.  
PRIMARY EXAMINER